Identification of farmer preferences as a tool to intensify cereal and legume production in the Ethiopian highlands

Key messages

- Crop intensification ensures increased production without increasing area cultivated—improving soil fertility and reducing disease and the presence of weeds.
- Crop diversification ensures the sustainability of production and incomes, and availability of animal feed.
- Wheat, barley and food legumes are key commodities in mixed farming systems in the Ethiopian highlands.
- There is high yield gaps between improved crop technology and farmer practices that need to be reduced to make farming profitable.

*Photo 1: Durum wheat variety **Utuba field***

Objectives

- The identification of high-yielding farmer- and industry-preferred varieties for scaling.
- The establishment of decentralized seed production, delivery and knowledge transfer systems.
- The identification of innovative cropping systems which minimise the negative impacts on the environment.
- The development of the capacity of farmers and partners through training.

Approaches

- 'Participatory variety selection' trials were conducted in four Africa Rising sites (two farmers per kebele) in Sinana, Maichew, Basonaworana and Lemo in the Oromia, Tigray, Amhara and the Southern Nations, Nationalities, and Peoples' regions respectively.
- Men and women farmers participated in evaluation of cereal and food legume varieties
- Mid- and End-seasons evaluation and field days organized

Target crops

- Cereals: Wheat (bread and durum wheat); barley (food and malt barley)
- Food legumes: faba bean, lentil and field pea

Achievements

- Men and women farmer-preferred crop technologies (improved varieties and associated practices) were identified at all sites (Table 1).
- The productivity of the cultivars was very high.
- Seed growers organized to multiply and sell seeds to other farmers.
- The intervention narrowed the yield and knowledge gaps at the action sites and in the surrounding areas.

Photo-2. Farmers evaluating crop varieties in the PVS fields

Key lessons learned and challenges

- Crop diversification ensures the sustainability of production. The implementation of targeted policy could facilitate the introduction of high yielding alternative cereals and food legumes.

- Farmer and industry participation in the selection of varieties speeds up the adoption of new technologies.
- Working in partnership enhances facilitates the selection and promotion of technologies.
- Informal seed multiplication and delivery enhances the adoption of technologies.
- Field days and innovation platforms create rare opportunities for the exchange of knowledge and information.
- Some food barley (HB1307 and Abdene) and food legumes were suitable for long (meher) and short (belg) rainy seasons in bimodal Ethiopian highlands.

Table: Varieties released at the Africa RISING sites through participatory variety selection

	Maichew	Lemo	BasonaWorana	Sinana
Food barley	HB1307	HB1307	Cr.41/98, Agegnehu	Abdene, HB1307
Malt Barley	Bekoji-1	Bekoji-1	Bekoji-1	Bekoji-1, Bahati
Durum wheat	Mangudo	Ginchi	Utuba	Utuba
Bread wheat	Hidase	Digelu	Tsehay	Hidase
Chickpea	Arerti, habru	Arerti, habru	Arerti, habru	Arerti, habru
Lentil	Alemaya		Derash	Derash, Alem Tena
Field pea	Gume	Bilalo	Bilalo, Burkitu	Burkitu
Faba bean	Dosha	Tumsa	Dosha	Gebelcho, Dosha

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Through action research and development partnerships, Africa RISING will create opportunities for smallholder farm households to move out of hunger and poverty through sustainably intensified farming systems that improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

The three projects are led by the International Institute of Tropical Agriculture (in West Africa and East and Southern Africa) and the International Livestock Research Institute (in the Ethiopian Highlands). The International Food Policy Research Institute leads an associated project on monitoring, evaluation and impact assessment.

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